

KCO1139



MECKLENBURG COUNTY
Land Use and Environmental Services Agency
Water and Land Resources

November 17, 2006

Mr. Ethan Brown
North Carolina Department of Environment
and Natural Resources
Division of Waste Management
Groundwater Compliance Unit
Mail Service Center 1646
Raleigh, NC 27699-1646



Subject: Semi-Annual Water Quality Monitoring
Harrisburg Road Landfill, Permit 60-01

Dear Mr. Brown:

Please find enclosed the laboratory report for the June 2006 semi-annual water quality-monitoring event for the closed Harrisburg Road Landfill permit number 60-01. A spreadsheet containing the analytical data has been e-mailed to you. Sampling and Analysis was performed per the approved revised "Sampling and Analysis Plan" for Harrisburg Road Landfill dated May 11, 2004. Samples were collected from eleven monitoring wells (HBW-12A, HBW-12B, HBW-14, HBW-14B, HBW-14C, HBW-14D, HBW-17B, HBW-20, HBW-21, HBW-22 and background well HBW-28), two potable wells (HBW-744 and the Clubhouse well) and, three surface-water sampling locations (HBSW-2006, HBSW-2008 and, HBSW-2010).

Detection levels and standards have been included for all sampling locations. Surface water standards listed are the water quality standards established for freshwater classification for aquatic life as outlined in 15A NCAC 2B "Classification and Water Quality Standards Applicable to Surface Waters of North Carolina". Groundwater standards listed are the standards outlined in 15A NCAC 2L "Classification of Water Quality Standards applicable to the Groundwaters of North Carolina". If the sample is Reported in parts per billion, then the standard is also reported in parts per billion. The spreadsheet is labeled to reflect the units used for reporting. Results exceeding water quality standards are highlighted in yellow in the spreadsheet for ease of identification.

Surface-water samples:

No analytes were detected in the samples collected from HBSW-2006 & HBSW-2008. Copper and Vanadium were detected below the 2C Standard at 4.3 ug/l and 5.4 ug/l respectively in the sample collected from HBSW-2010.

Field-measured parameters for surface-water samples were within the range of established standards. Field-measured parameters for surface water samples are summarized in the following table:

Location	Temperature	PH	Specific Conductivity	Dissolved Oxygen
HBSW-2006	21.9 ° C	7.36	200 umhos/cm	7.02 mg/l
HBSW-2008	21.5 ° C	7.60	219 umhos/cm	7.30 mg/l
HBSW-2010	21.2 ° C	7.23	204 umhos/cm	7.60 mg/l

Groundwater samples:

Iron exceeds the standard in samples collected from monitoring well HBW-14. The concentration of iron detected is within the historical range of detection and is likely naturally occurring.

Manganese exceeds the standard in samples collected from monitoring wells HBW-12B and HBW-14. The manganese concentrations detected in these samples are within the historical range of detection and is likely naturally occurring.

Color exceeds the standard in the sample collected from monitoring well HBW-14. Formation materials in the form of sediment were apparent during sampling. The color measurement is within the historical range of detection.

The following nine volatile organic compounds (“VOCs”) were detected in the sample collected from well HBW-17B:

VOC	Sample Result ug/l	2L Standard ug/l
Benzene	18	1
Methylene Chloride	26	5
Tetrachloroethylene	75	0.7
Trichloroethylene	56	2.8
Vinyl Chloride	12	0.15
1,1-Dichloroethane	28	700
1,2-Dichloropropane	10	0.56
cis-1,2 Dichloroethene	90	70
Xylenes (total)	29	530

Note: Bolded results are in excess of the 2L Standard

The number and concentrations of VOC's detected in the sample from HBW-17B was similar to the past four sampling events. No VOC's were detected in any other samples.

pH was measured to be more acidic than the standard in the samples collected from all monitoring wells and potable wells sampled (HBW-12A, HBW-12B, HBW-14, HBW-14B, HBW-14C, HBW-14D, HBW-17B, HBW-20, HBW-21, HBW-22, HBW-744, the Clubhouse well and, background monitoring well HBW-28). The pH measurements are within the historical ranges for each location. Field-measured parameters for groundwater samples are summarized in the following table:

Location	Temperature	pH	Conductivity
HBW-12A	17.5 °C	6.23	329 umhos/cm
HBW-12B	18.5 °C	6.21	390 umhos/cm
HBW-14	15.0 °C	6.43	245 umhos/cm
HBW-14B	14.6 °C	6.24	203 umhos/cm
HBW-14C	14.4 °C	6.26	203 umhos/cm
HBW-14D	15.1 °C	6.20	305 umhos/cm
HBW-17B	16.3 °C	4.89	62 umhos/cm
HBW-20	16.1 °C	6.45	103 umhos/cm
HBW-21	15.7 °C	5.82	589 umhos/cm
HBW-22	18.4 °C	6.12	85 umhos/cm
HBW-28	18.1 °C	5.32	24 umhos/cm
HBW-744	18.6 °C	6.43	182 umhos/cm
Clubhouse Well	17.8 °C	6.37	77 umhos/cm

Note: Bolded results are in excess of the 2L Standard

Total coliform bacteria analysis was performed for groundwater samples collected from monitoring wells HBW-12B, HBW-14 and potable wells HBW-744 and Clubhouse Well per requirements of the local zoning ordinance. Total coliform bacteria were detected in the samples from HBW-12B, HBW-14 and HBW-744. Fecal coliform bacteria were not detected in HBW-744.

Please call me at (704) 336-5454, if you have any questions concerning this report.



Sincerely,

[Handwritten Signature]
 Dennis F. Tyndall, P.G.
 Hydrogeologist
 LUESA Groundwater and Wastewater Services

Enclosures: June 2006 Harrisburg Road Landfill Analytical Report

cc: Joe Hack, Q.E.P., Project Manager, LUESA Solid Waste Program

